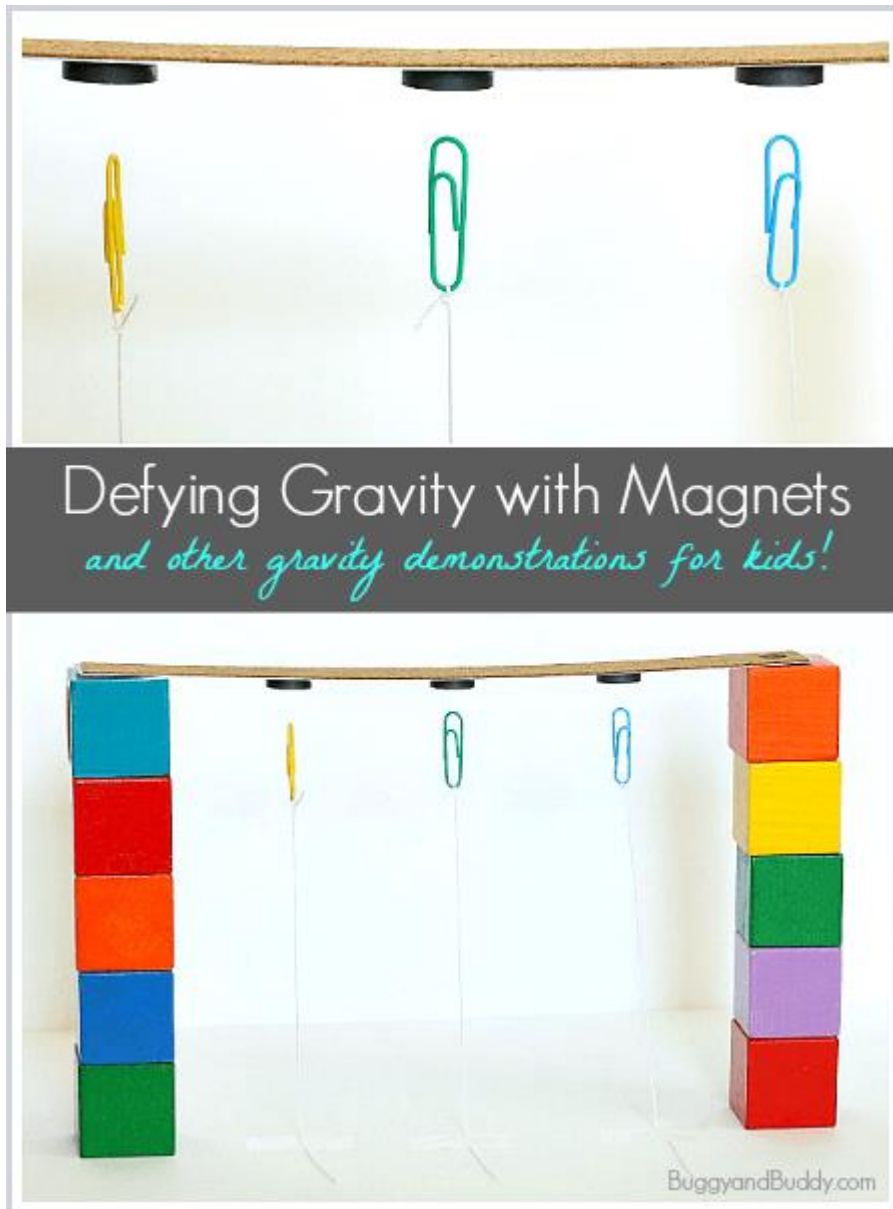


Easy Science Experiments for Kids: Gravity Activity with Paperclips



What exactly is gravity?

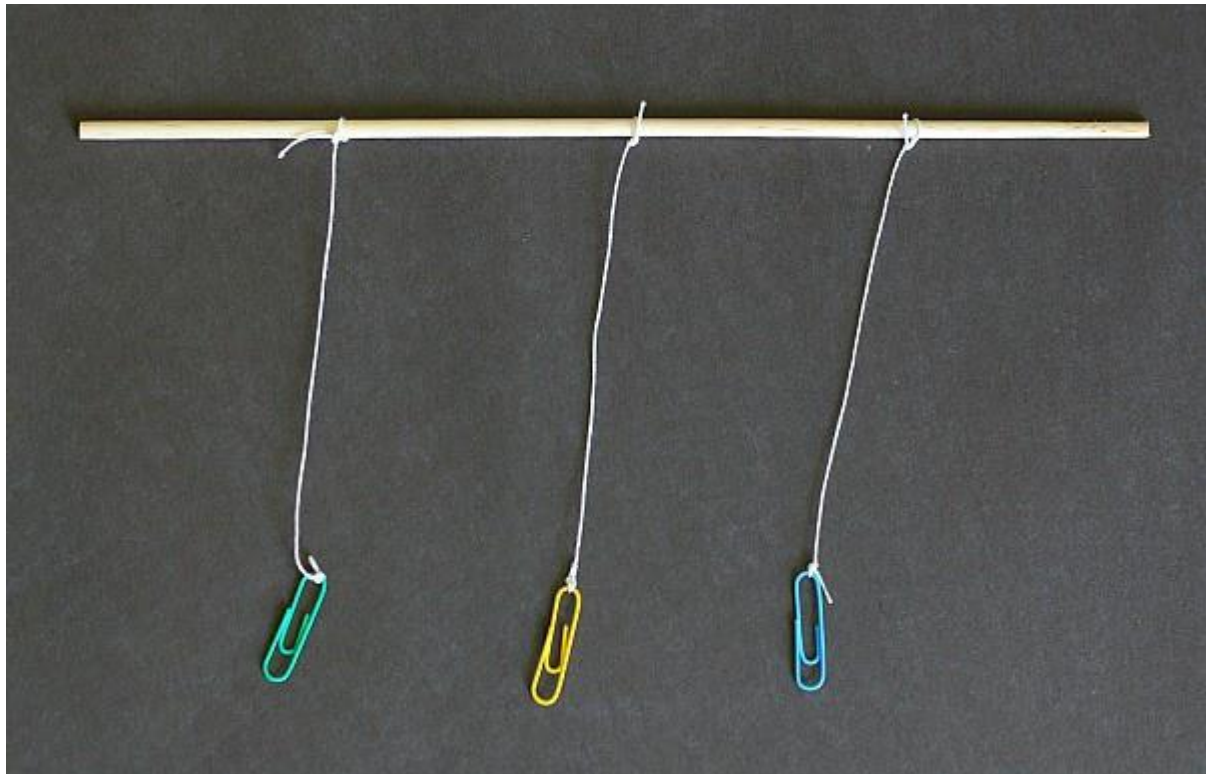
Gravity is a force that tries to pull two objects toward each other. Earth's gravity is what keeps you on the ground, what causes objects to fall, and is why the objects fall down rather than up!

Materials for Gravity Experiment

- Small dowel or stick
- String
- Paperclips
- Scissors
- Tape
- Strong magnets (Use either neodymium magnets .5 inch or bigger or ceramic magnets .75 inch or larger. Regular craft magnets won't work.)
- Metal ruler (or wooden ruler with tape)
- Blocks, books, or other material for stacking

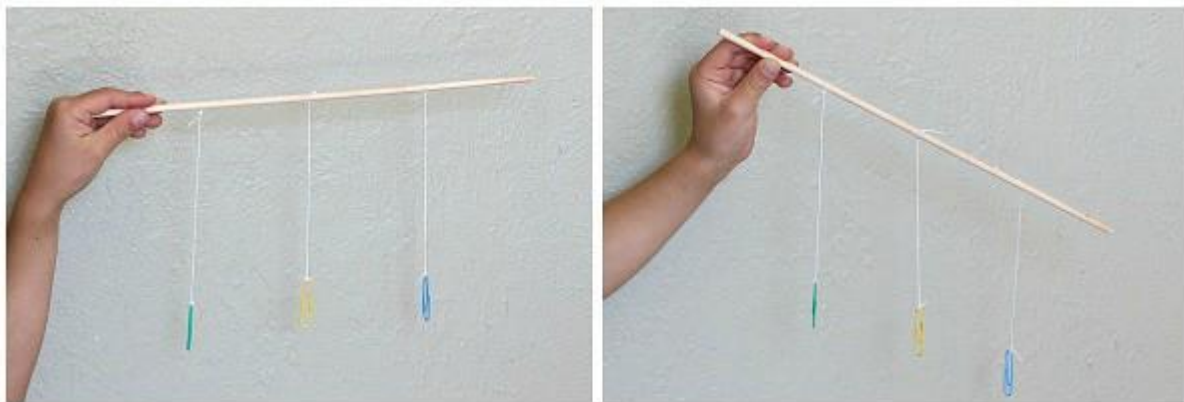
Important: Not only are small magnets choking hazards, but magnet ingestions pose a serious threat to the health of children. NEVER leave any child unattended with magnets. Never allow any child under 3 to use magnets.

1. Start by tying some paperclips to pieces of string. Then tie the string onto a small dowel rod or stick.



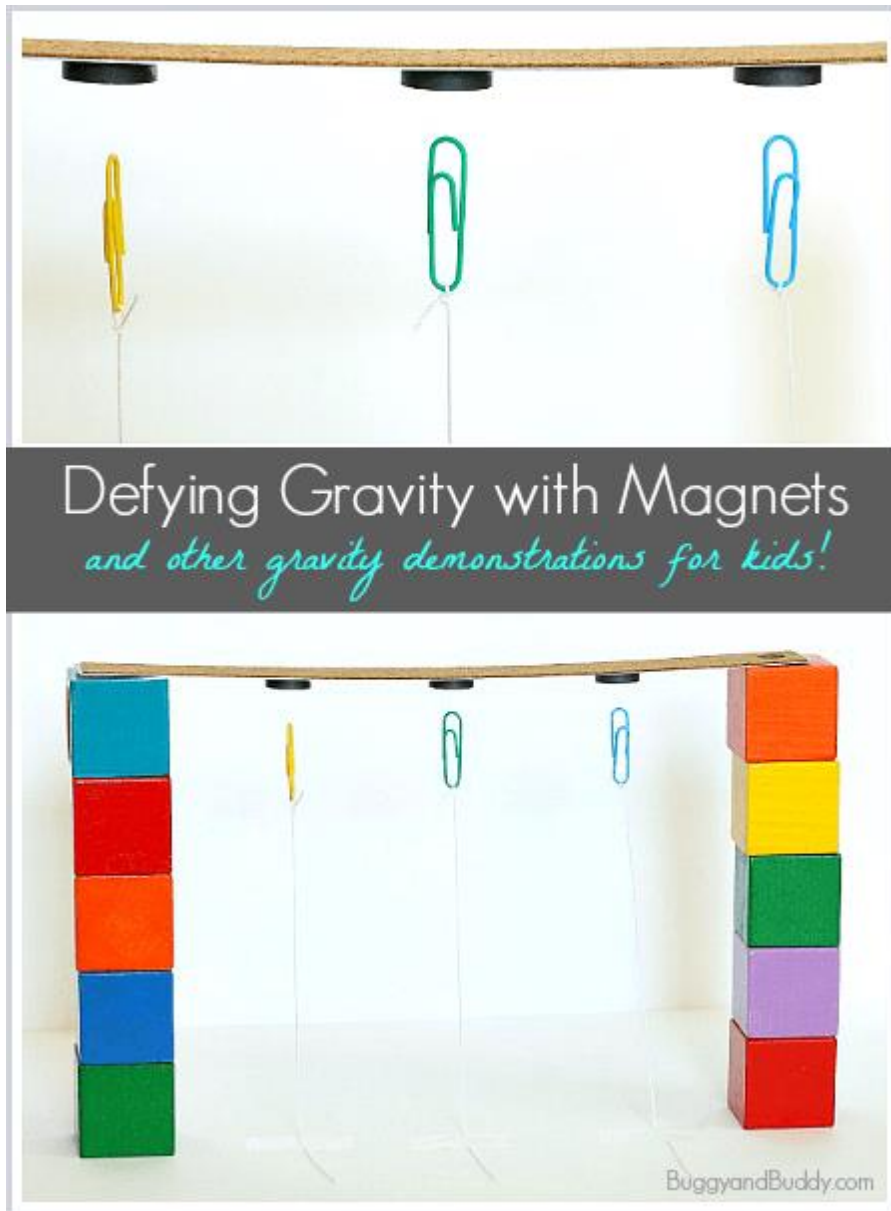
2. Lift up the dowel rod so the paperclips hang from the string.

- *Which direction do the paperclips point?*
- *What happens if you tilt the stick?*



Theo was amazed to observe that no matter which way he tilted the stick or how steep an angle he tilted the stick, the paperclips always pointed right down at the ground!





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Here's a fun way for young children to explore gravity. Kids will first observe how gravity is always pulling objects toward the Earth by using paperclips and string. Then the super cool part- children will use magnets to explore how gravity can easily be overcome by other forces- almost like defying gravity! *(This post contains affiliate links.)*

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See it in Action!

Exploring Gravity with Young Children

*Whenever I invite my kids to participate in **science activities**, my main goal is **NOT** for them to master a set concept, but simply to allow them to explore the activity in their own way. Giving this freedom to children inspires them to make predictions and critically think about the world around them in a pressure-free setting.*

AD

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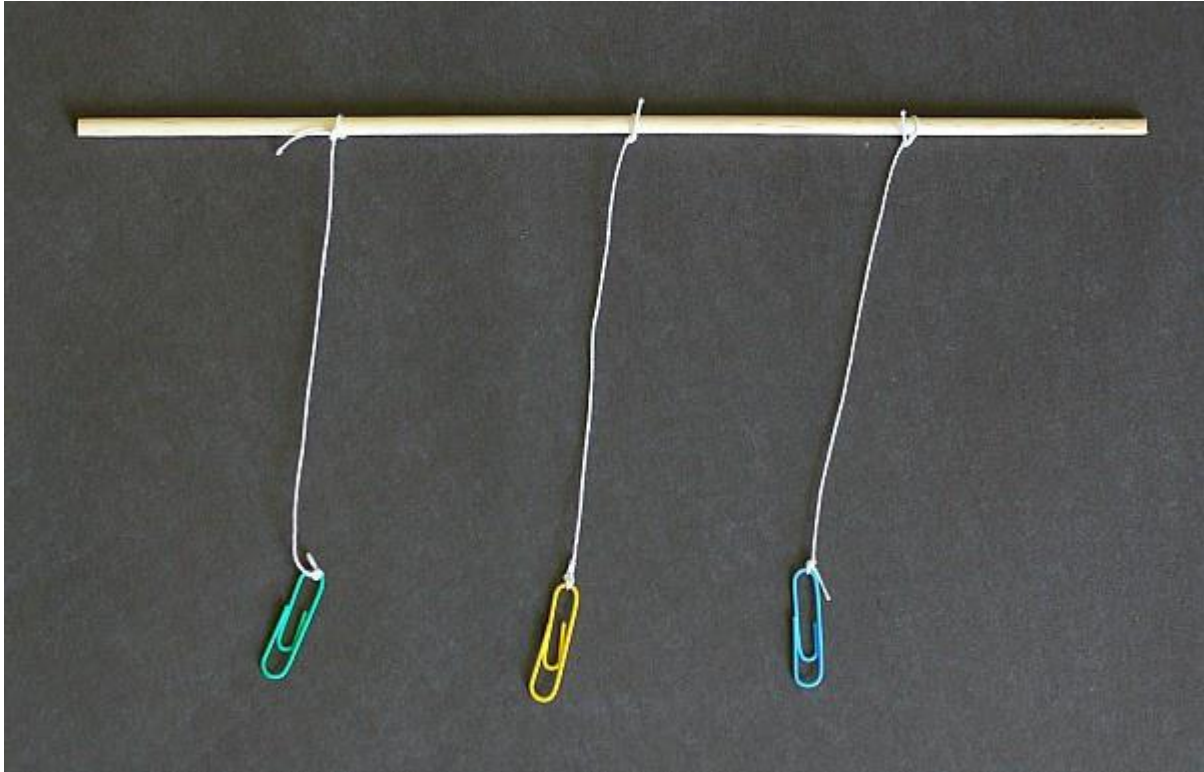
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Directions for Gravity Experiment

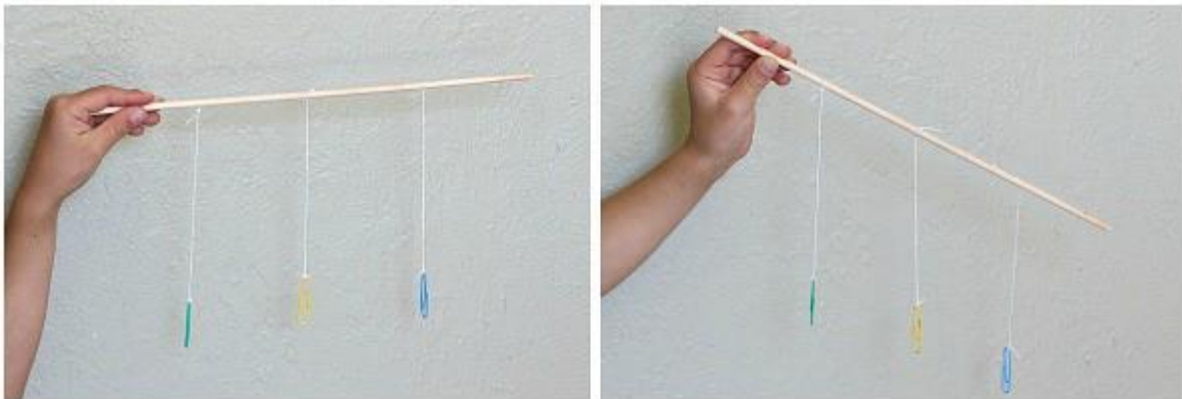
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- What happens if you tilt the stick?



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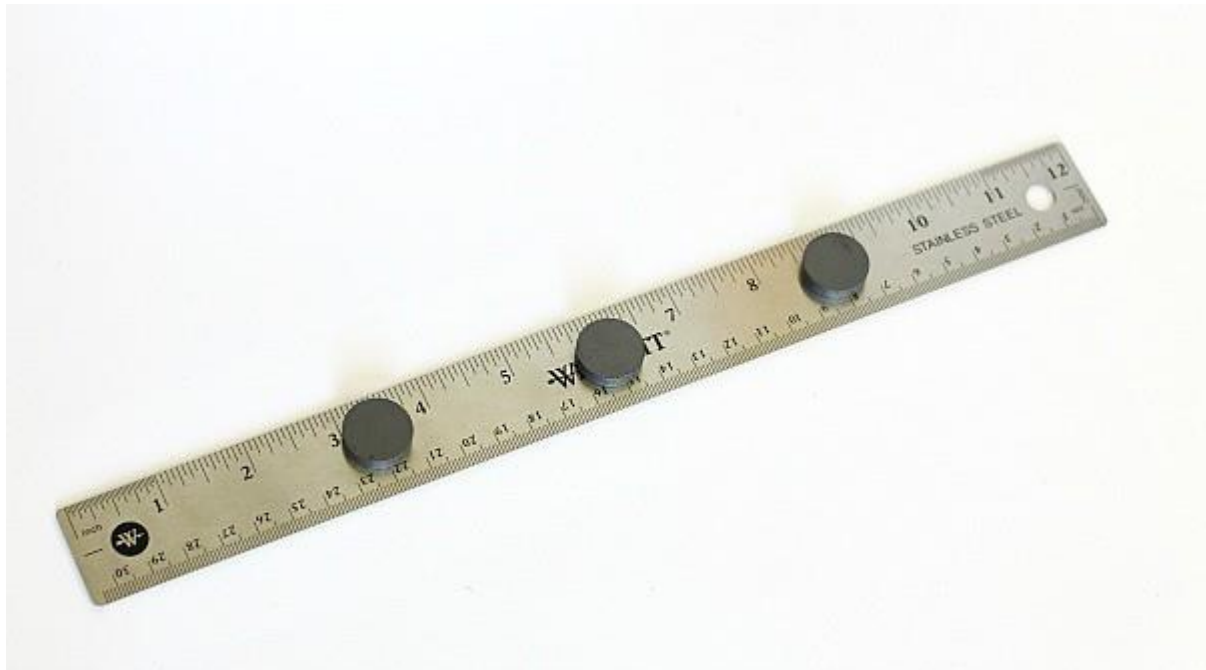
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We talked about how the Earth's gravity is what holds us and other things to the ground. The paperclips are being pulled toward the Earth by gravity, but they can't fall because the string is holding them in the air. No matter which way we tilted the dowel rod, the paperclips were still being pulled straight toward the Earth by gravity.

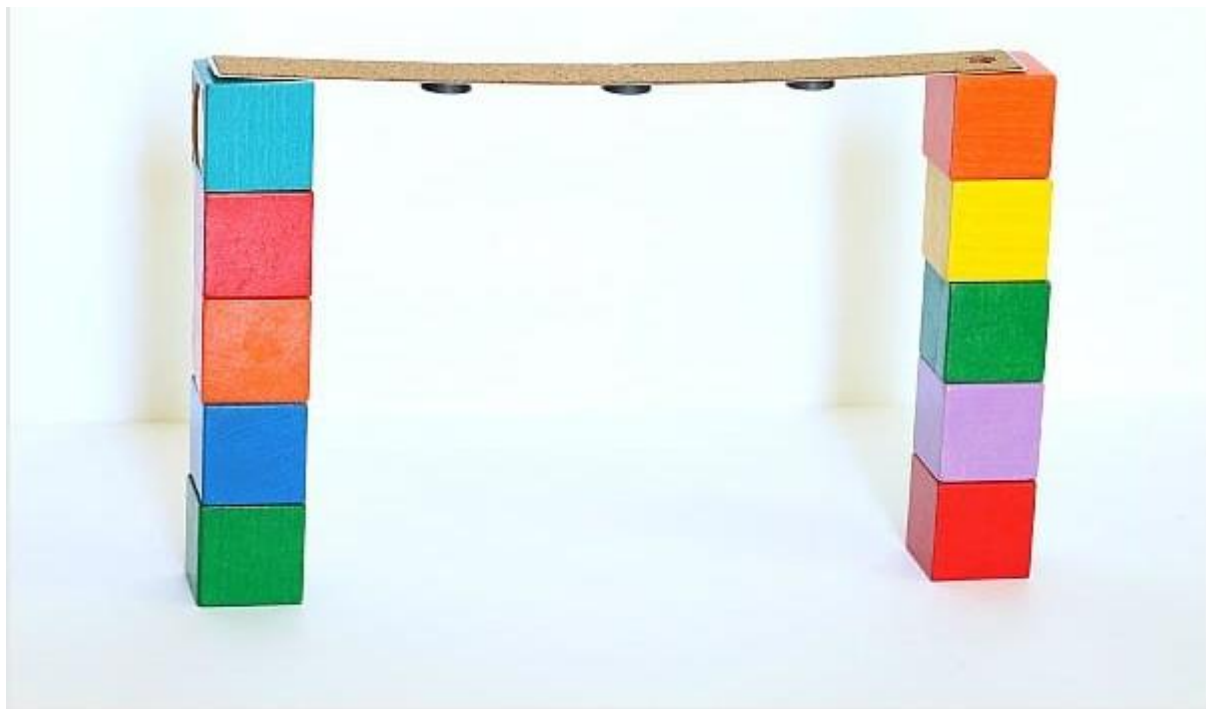


Next we explored how gravity can easily be overcome by other forces using magnets.

3. Place three magnets along a metal ruler. (If you're using a wooden ruler, you can tape the magnets to the top.)



4. Suspend the ruler from two stacks of blocks, books, or other materials. Be sure the magnets are facing down.



5. Take the paper clips and string off your dowel rod.
6. Take one paperclip and hold it until it's just suspended below the first magnet. Tape the string in place onto the table (or whatever surface your activity is on). Do this with the other two paperclips.
7. After taping the strings in place below the magnets, remove the ruler and observe what happens. All the paperclips fall to the ground! We talked about why the paperclips were not going up into the air after we removed the magnets.



8. Put the ruler with magnets back above the paperclips. Slowly lift each paperclip toward each magnet until they are all suspended. The kids were very excited about this demonstration!

We talked about how the magnetic force between the paperclip and magnet were stronger than the pull of the Earth's gravity on the paperclip, so the paperclip was able to remain in the air rather than fall back to the ground.

